Prenatal Attachment Relationship with Pregnant Women's Compliance in Carrying Out Antenatal Care Visits

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Abstract

Yogyakarta's 2022 health profile shows that MMR in 2021 is 580.34 from 2757 live births. Data from Basic Health Research (Riskesdas) conducted by the Ministry of Health of the Republic of Indonesia shows that 2017 K4 coverage nationally was 74.1%. This figure shows that mothers who receive the first visit do not continue the ANC according to the minimum standard of four visits. Antenatal care visits are an effort to reduce maternal and infant mortality. High maternal prenatal attachment is believed to be able to make a close emotional connection and encourage mothers to do positive things to improve their health. This study analyzed the relationship between prenatal attachment and pregnant women's compliance in the third-trimester antenatal care visit at Puskesmas Kasihan 1. The method used in this study is quantitative research with a cross-sectional approach. The sample used was 45 third-trimester pregnant women with uses purposive sampling technique. Data analysis using the Chi-Square Test. Chi-Square Test results obtain a p-value of 0.003 <0.05. This means that there is a significant relationship between prenatal attachment and the compliance of pregnant women with carrying out antenatal care. It can be concluded that there is a significant relationship between prenatal attachment and antenatal care compliance in pregnant women. A high level of prenatal attachment between mother and baby will affect the mother's compliance with antenatal care visits. The results of this study are expected to provide additional information to pregnant women about the importance of prenatal attachment in dealing with pregnancy.

Keywords: antenatal care; commpliance; prenatal attachment; third-trimester pregnant women

1. Introduction

According to a 2022 report by the World Health Organisation (WHO) for 2020, the maternal mortality rate (MMR) reached 295,000. In Indonesia, in 2020, MMR reached 4,627 cases of death every year. The causes are mostly other causes (34.2%), bleeding (28.7%), hypertension during pregnancy (23.9%), and infection (4.6%) (WHO, 2022). Data from the 2022 Yogyakarta Health Profile shows that the maternal mortality rate (MMR) in 2021 will be 580.34 from 2757 live births, with an absolute number of 16 cases of maternal death. The causes include bleeding and SEZ, in addition to complication diseases. WHO reports that 40% of maternal deaths in developing countries are related to anemia during pregnancy. Anemia and chronic lack of energy (SEZ) in pregnant women are the main causes of bleeding and infection, which are factors in maternal death (Dinkes, 2022). For this reason, integrated and comprehensive antenatal services are needed during pregnancy (Dinkes, 2022).

Basic Health Research Data (Riskesdas) conducted by the Ministry of Health of the Republic of Indonesia shows that in 2017, the ideal K1 coverage nationally was 86.0%, and K4 coverage nationally was 74.1%. The data showed that mothers who received the first visit did not continue the ANC according to the minimum standard for the fourth visit. Data from the Bantul Health Office in 2022 shows K4 coverage in 2018 of 92.02%, 2019 of 89.03%, 2020 of 86.81%, 2021 of 98.2%, and 2022 of 81.1%. This shows an increase and a decrease again. This is caused by pregnant women who lose contact in K1 due to late learning of their pregnancy or unwanted pregnancy (Riskesdas, 2018).

Health problems in pregnant women, both physical and psychological, have an impact on their quality of life. Pregnant women with a low quality of life need to prepare themselves by paying more attention to their health conditions when facing pregnancy (Samutri & Endriyani, 2021). Antenatal care is care given to pregnant women during pregnancy, which is useful for facilitating providing healthy and positive outcomes for pregnant women and their babies, providing a relationship of trust with mothers, early detection of complications that can be life-threatening, preparing for birth, and providing health education (Zuchro et al., 2022). Adherence to Antenatal Care (ANC) visits can be demonstrated through the frequency of maternal arrivals. One of the efforts to reduce maternal mortality is by conducting routine monitoring of maternal and child health degrees through antenatal care visits to detect abnormalities that occur during pregnancy as early as possible (Paramita et al., 2023).

Maternal-fetal attachment or often called prenatal attachment is an emotional bond between mother and fetus during pregnancy where mother and baby live mutually beneficial lives and grow a bond of affection that is very emotional so that it can affect maternal behavior in fulfilling health by increasing the degree of health and, being willing and obedient in carrying out antenatal care during pregnancy (Salehi et al., 2019). The emotional bond between mother and fetus during pregnancy (prenatal attachment) can influence the mother's behaviour, especially in the fulfillment of her health. Mothers who have high prenatal attachment scores tend to be more obedient and willing to make regular ANC visits. This is in line with the research results conducted by Lamdianita (2019), which found that prenatal attachment affects pregnant women's compliance with antenatal care in the third trimester (Lamdianita, 2019). This study aimed to determine the relationship between prenatal attachment and pregnant women's compliance with antenatal care visits.

2. Research Methods

This study is a type of observational analytical research using a cross-sectional approach. The research was conducted at Puskesmas Kasihan I in November-December 2023. The sampling technique in this study used purposive sampling with a population of 81 third-trimester pregnant women with a total sample of 45 respondents who met the inclusion criteria. Researchers used the Indonesian Version of the Prenatal Attachment Inventory (IPAI) questionnaire, which has been translated into Indonesian and has been endorsed by Muller with a Cronbach's alpha value of 0.937 (-0.800) and has been tested for validity in previous studies with a significant value ($p < 0.01$). The IPAI questionnaire has 21 items with a total score between 21 and 84. In addition, it also uses compliance questionnaires in ANC visits, with compliance if the mother does ANC at least six times and non-compliance in doing ANC if only done less than six times.

Data was collected by distributing questionnaires to respondents at Puskesmas. The researcher explains the purpose and procedure of the study, and the respondent signs informed consent. After that, researchers began interviews according to the list of questions in the IPAI questionnaire and compliance in conducting ANC visits. Bivariate analysis using the Chi-Square test to determine the relationship between prenatal attachment and adherence to ANC. This research has obtained permission to pass ethics with the number KE/AA/XI/10111303/EC/2023 from Alma Ata University Yogyakarta.

3. Results and Discussion

3.1. Results

3.1.1. Characteristics of Respondents

Table 1. Frequency Distribution of General Characteristics of Third Trimester Pregnant Women at Puskesmas Kasihan I, Year 2023 (n=45)

No	Characteristics	Frequency (N)	Percentage (%)
1.	**Age**		
	23-28	26	57.8
	29-34	15	33.3
	35-40	4	8.9
2.	**Gravida**		
	Primigravida	24	53.3
	Multigravida	21	46.7
3.	**Education**		
	Junior High School	5	11.1
	Senior High School	24	53.3
	Higher Education	16	35.6
4.	**Occupation**		
	Civil Servants	1	2.2
	Private Employees	7	15.6
	Housewife	37	82.2
5	**Income**		
	1000.000-3000.000	31	68.9
	>3000.000-5000.000	8	17.8
	> 5000.000	6	13.3
6	**Insurance**		
	BPJS	31	68.9
	KIS	7	15.6
	No Insurance	7	15.6
7	**Distance to Health Service**		
	< 1 Km -1 Km	6	13.3
	>1 Km	39	86.7
	Total	**45**	**100**

Source: Primary Data, 2023

Table 1 above describes that of 45 respondents of third-trimester pregnant women at Puskesmas Kasihan I, the average age of 23-28 was 26 (57.8%). Gravida data showed that 24 (53.3%) were first-time pregnant women (Primigravida), while 21 (46.5%) were mothers who had been pregnant more than once (Multigravida). At the education level, the average respondent at the high school level is equivalent, or as much as 24 (53.5%). Regarding work, data shows that the average respondent is a housewife (IRT) as much as 37 (82.2%). Judging from their income, the average respondent has a moderate income, with a monthly income between Rp 1000,000-3000,000, as many as 31 (68.9%). Data on the distance to health facilities showed that the number of respondents from home to health workers was 39 (86.7).

3.1.2. Univariate Test

Table 2. Frequency Distribution of Prenatal Attachment Scores at Puskesmas Kasihan I in 2023

	Category	N	Percentage (%)
Prenatal Attachment	High	42	93.3
	Low	3	6.7
	Total	**45**	**100**

Source: Primary Data, 2023

Based on Table 2, it is known that 45 respondents of third-trimester pregnant women almost all have a high prenatal attachment score during pregnancy, as can be seen from the respondents' answers with a percentage of 93.3%, or as many as 42 respondents. Prenatal attachment scores can increase if mothers have enough family knowledge and support to influence maternal behavior and improve health degrees (Mariani et al., 2020).

Table 3. Frequency Distribution of Antenatal Care Adherence at Puskesmas Kasihan I in 2023

	Category	N	Percentage (%)
Antenatal Care	Obedient	43	95.6
	Disobedient	2	4.4
	Total	**45**	**100**

Source: Primary Data 2023

Based on table 3 shows that the average respondent is obedient in conducting antenatal care for health workers, both midwives, and doctors, both in Puskesmas, PMB, and hospitals. It is shown that of the 45 respondents who complied 43 (95.6%). Antenatal care is care given to pregnant women before birth. This is useful to facilitate healthy and positive outcomes for pregnant women and their babies. In addition, upholding trust in relationships with mothers also detects complications that can endanger lives, prepares for birth, and provides health education (Kemenkes, 2021).

3.1.3. Bivariate Test

Table 4. Results Test of Prenatal Attachment Relationship with ANC Visit Compliance

Variable	ANC Compliance				Total		P
	Obedient		Disobedient				
Prenatal Attachment	F	%	F	%	F	%	
High	42	100	0	0	42	100	0,003
Low	1	33.3	2	66.7	3	100	
Total	43	95.6	2	4.4	45	100	

Source: Primary Data, 2023

Based on Table 4, cross-tabulations between prenatal attachment and antenatal care compliance show that mothers who are obedient to ANC visits have a high prenatal score of 42 (100%), while mothers who do not comply with ANC visits have a low prenatal score of 1 (33.3%).

Based on these results, it can be seen that there is a significant relationship between prenatal attachment and maternal compliance in conducting antenatal care visits during pregnancy, measured in the third trimester with a gestational age of 32-40 weeks. The hypothesis testing process in this study uses the SPSS program version 20.0 with the provision of a Chi-Square probability value (significance) p-value less than 0.05. The results of the analysis showed that the p-value (Asymp.sig)

was 0.003, so it can be said that the relationship between prenatal attachment and the compliance of pregnant women in conducting antenatal care visits is quite significant.

Prenatal attachment components include cognitive (conceptualizing the fetus), emotional, behavioral, and health practices (Sukriani & Suryaningsih, 2018). Prenatal attachment scores can increase if the mother has good enough knowledge that will encourage maternal behavior and improve her health status. The increase in prenatal attachment scores was not only influenced by the mother's knowledge. The psychological condition of the mother also plays an important role, such as the acceptance of her pregnancy, which can be in the form of husband support as well as family support that encourages mothers to be diligent and obedient in making ANC visits (Alvianty & Suryaningsih, 2016).

3.2. Discussion

The purpose of this study was to determine the relationship between prenatal attachment and the compliance of pregnant women with ANC visits. Prenatal attachment is a term that describes the extent to which a woman engages in behaviors that manifest relationships and interactions with her unborn child. Prenatal attachment is a close, warm, and affectionate emotional relationship between mother and child (Mariani et al., 2020). Based on the analysis, the relationship between prenatal attachment and maternal compliance carrying out the third trimester of antenatal care at Puskesmas Kasihan I obtained a p-value of 0.003, which is smaller than 0.5, so it can be interpreted that between the prenatal attachment variable and the antenatal care compliance variable, there is a significant relationship. This result is in line with research conducted by Lamdianita (2019), where it was found that there was a significant relationship between prenatal attachment and maternal compliance in carrying out ANC visits with a p-value of 0.002 (Lamdianita, 2019). Pregnant women who have a high prenatal attachment score will have better habits and behavior regarding self-care during pregnancy (Alhusen et al., 2012). The result of this study is consistent with Maddahi's (2016) study, which found that mother with high scores of prenatal attachment has good health behavior during pregnancy. The health behavior referred to in this research is the health examination of pregnant women or antenatal care visits (Maddahi et al., 2016). Components of prenatal attachment include cognitive or the ability to conceptualize the fetus as an individual different from the mother, including emotional or attachment relationships between mother and fetus as well as behavioral components and health practices. Other factors that can affect prenatal attachment are education level, economic status, social support, psychological pregnant women, and pregnancy planning (Zahrani et al., 2020). The level of knowledge of mothers is one factor that affects maternal compliance when conducting pregnancy checks for health workers. In addition, mothers with a good level of education will be easier to be educated by health workers, who will support mothers and families in taking a stand during pregnancy.

Most respondents, in this study, had a good level of education, namely high school or vocational graduates, as much as 53.3%. Educational background will shape a person's way of thinking, including the ability to understand factors related to disease and use this knowledge to maintain health (Aryani et al., 2017). Women who are educated find it less difficult to digest information from health workers about the impact of not taking antenatal care (Oktia et al., 2023). This is by research conducted by Prihandini & Primana (2019), which said that there is a relationship between education level and antenatal care compliance (Prihandini & Primana, 2019). One opportunity to increase knowledge about maternal health care is through antenatal care (ANC) (Fatimatasari et al., 2017).

Antenatal care examinations, according to standards, can improve the degree of maternal and fetal health and prevent early complications in pregnancy. Mothers with high prenatal attachment scores and compliance in carrying out antenatal care examinations had the highest percentage in this study.

A good prenatal attachment will encourage the mother to pay attention to her health behavior. This is due to the strong bond between the mother and the fetus, so the mother feels the health of the fetus is her responsibility. The mother will feel more responsible for everything that happens to her fetus (Heksaputra et al., 2021).

The compliance of mothers carrying out antenatal care (ANC) in this study was assessed with compliance and non-compliance. Mothers will be said to be compliant if they have carried out ANC examinations by standards, and are said to be non-compliant if they are not in accordance with pregnancy screening standards, namely six visits during pregnancy set by the Indonesian Ministry of Health (Heksaputra et al., 2021). In this study, the average compliance of mothers with antenatal care visits was 95.6%. Other things that greatly affect pregnant women in implementing ANC, include social support. Mothers with desired pregnancies with the support of their husbands, parents and social environment tend to have high prenatal attachment scores (Sjariati & Primana, 2020).

Other factors that may affect prenatal attachment are age, number of pregnancies (Gravida), economy, geographic location, attitudes, and family support during pregnancy. Based on the data on the characteristics of respondents, it was found that the average maternal age was 23 and 28 years, as much as 26 (57.8%). In primigravida data, the average new mother undergoing her first pregnancy was 24 (53.3%). The age range of 20-35 years is considered a productive, healthy age, making pregnant women think more rationally compared to ages classified as high-risk (Rahman et al., 2022). Pregnant women aged 20-35 years will tend to check their pregnancy because they still feel that pregnancy checks are very important, while those aged less than 20 years tend not to understand too much about the importance of making regular antenatal visits. While those over 35 years old tend to be indifferent to antenatal visits and feel that they have experienced previous pregnancies (Daryanti, 2019).

Pregnancy that occurs at reproductive age is healthy, precisely for the psychological development of a woman. At this age, a woman will easily adapt to her role as a mother (Mursyida & Fithriani, 2023). Mothers with primigravida will tend to have a higher prenatal attachment score compared to multigravida pregnancies. This is because psychologically, mothers want to have a new role that has never been felt before (Astuti et al., 2021). Economic factors have an influence on pregnant women and their families in efforts to detect early pregnancy complications. Family economic status plays a role in taking action to check health (Zahrani et al., 2020). The results of this study show that most pregnant women have a moderate income ranging from Rp 1,000,000-3,000,000 as much as 31 (68.9%), so this is not a barrier for mothers in implementing ANC. This is supported by research conducted by Syafitri (2019), which said that families with sufficient economies can check their pregnancies regularly, plan childbirth with health workers, and make other preparations well (Syafitri, 2019).

Geographical factors in this case are often associated with the distance between the house and the nearest health facility. In this study, almost 39 (86.7%) of respondents have a distance between their homes and the nearest health facilities of less than 1 km and no more than 5 km, which means that the distance of respondents can still be reached with good access. With the availability of health facilities close to their residence, it can encourage someone to do ANC (Shinta, 2017). This is in line with research conducted by Zahrani et al. (2020), who said that distance to health facilities affects compliance when conducting health visits (Zahrani et al., 2020). In the group of mothers who did not comply with this study, some were caused by only knowing that she was pregnant at the end of the first trimester or in the second trimester. Generally, mothers who do not feel that they are pregnant do not experience significant abnormalities or changes, such as nausea and vomiting. Most of the mothers who do not know that they are pregnant are multiparous, or grandemultipara.

Based on the analysis of the relationship between prenatal attachment and maternal compliance in carrying out the third trimester of antenatal care at Puskesmas Kasihan I, it was found that the p-value was 0.003. This value is smaller than 0.5, so it can be interpreted that between the prenatal attachment variable and the antenatal care compliance variable, there is a significant relationship. This is by research conducted by Lamdianita (2019) where it was found that there was a significant relationship between prenatal attachment and maternal compliance in carrying out ANC visits with a p-value of 0.002 (Lamdianita, 2019).

Mothers with high prenatal attachment scores and compliance in carrying out antenatal care examinations had the highest percentage in this study, with chi-square analysis results obtaining a p-value of 0.003. The increase in prenatal attachment in this study was influenced by several things, including sufficient education levels, the average respondents per high school education (53.3%), having pregnancy support from both husband and family, so that mothers are more diligent and obedient in carrying out ANC visits according to standards. It is proven from the results of the analysis that as many as 43 (95.6%). A close, warm, and affectionate emotional bond with her baby will encourage the mother to be more responsible for everything that happens to her fetus. Mothers want to protect their fetuses, including by improving their health. Because the mother knows that this examination is important, she will do a health check (antenatal care) according to standards.

4. Conclusion

The results of this study confirmed that there was a significant relationship between prenatal attachment and compliance of pregnant women in carrying out antenatal care visits at Puskesmas Kasihan I, with a p-value of 0.003, or less than 0.05. The level of prenatal attachment in pregnant women affects maternal compliance when conducting antenatal care at Puskesmas Kasihan I. Prenatal attachment screening can be done when pregnant women visit ANC in the second trimester as one of the bonding screenings and welfare levels between mother and baby. Future research could develop interventions to improve prenatal attachment rates and maternal adherence to ANC visits, especially in undersupported pregnant women who have anxiety during pregnancy.

Acknowledgment

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